We claim:

1. A method of detecting a latent pattern of molecular structures on solid support comprising:

providing a type of colloidal particles, each particle carrying a net electric charge and is capable of electrostatic interaction with the solid support and molecular structures of interest;

contacting the colloidal particles and the solid support on which said latent pattern of molecular structures need be detected; and

observing a detectable change brought about by colloidal particles precipitated on the surface of the solid support such that the density of precipitated colloidal particles on the surface follows the pattern of the molecular structures which need be detected.

2. The method of claim 1 wherein the latent pattern of molecular structures is formed by hybridized nucleic acids.

3. The method of claim 1 wherein the latent pattern of molecular structures is resulted from specific binding of target and probe proteins.

4. The method of claim 1 wherein colloidal particles having size of less then 10 μm, and more preferably having the size of less then 1 μm.

5. The method of claim 1 wherein colloidal particles are essentially gold nanoparticles.

6. The method of claim 1 wherein colloidal particle carrying a net negative electric charge.

7. The method of claim 1 wherein colloidal particles are covered by a positively charged polymer substance and therefore are carrying a net positive electric charge in solutions with widely varied pH value.

8. The method of claim 1 wherein surface of solid support additionally is treated in a solution of a positively charged polymer substance.

9. The method of claim 1 wherein surface of solid support additionally is treated in a solution of a negatively charged polymer substance.

10. The method of claim 1 wherein latent pattern of molecular structures is created by enzymatic digestion of molecular structures on the surface of the solid support.

11. A method of detecting a latent pattern of molecular structures on the solid support comprising:

providing a type of colloidal particles, each particle carrying a net electric charge and is capable for electrostatic interaction with the solid support and molecular structures of interest;

providing an alternative binding agent, which agent can be absorbed on the surface of the solid support and, when absorbed on the surface, said agent prevent colloidal particles from precipitating in corresponding sites of the solid support;

contacting the mixture of colloidal particles and said alternative binding agent with the solid support on which said latent pattern of molecular structures need be detected; and

observing a detectable change brought about by colloidal particles precipitated on the surface of the solid support such that density of precipitated colloidal particles on the surface follows the pattern of the molecular structures and is given by difference of binding rate of colloidal particles and the absorption rate of the alternative binding agent to corresponding sites of the solid support.

12. A method of detecting a latent pattern of molecular structures on the solid support comprising:

providing a type of colloidal particles, each particle carrying a net electric charge and is capable for electrostatic interaction with the solid support and molecular structures of interest;

providing an alternative binding agent, which agent can bind either to the surface of the solid support or to the colloidal particles, and which agent when bind to the surface prevents colloidal particles carrying the same binding agent from precipitating in corresponding sites of the support;

contacting the mixture of colloidal particles and said alternative binding agent with the solid support on which said latent pattern of molecular structures need be detected; and

observing a detectable change brought about by colloidal particles precipitated on the surface of the solid support such that density of precipitated colloidal particles on the surface follows the pattern of the molecular structures and is given by difference of the absorption rate of the agent to colloidal particles and corresponding sites of the solid support.

13. A method of detecting a latent pattern of molecular structures on the solid support comprising:

providing opaque solid support or equally acceptable, providing a transparent solid support with back-side blackened by light absorbing paint;

creating the latent pattern of molecular structures on the solid support by immobilizing probe molecular structures in multiple sites on the solid support and binding the probe molecular structures with target molecular structures in a sample substance;

visualizing the latent pattern by precipitating colloidal particles on the surface of solid support and capturing image of diffusely reflected light from the surface of the support.

14. A method of detecting a latent pattern of molecular structures on the solid support comprising:

providing transparent solid support and a light absorbing screen, and means, such as a cassette, of keeping the screen on predetermined distance behind the transparent support;

creating the latent pattern of molecular structures on the solid support by immobilizing probe molecular structures in multiple test sites on the solid support and binding the probe molecular structures with target molecular structures by exposing the solid support to a sample substance;

visualizing the latent pattern by precipitating colloidal particles on the surface of solid support and capturing image of diffusely reflected light from the surface of the support.